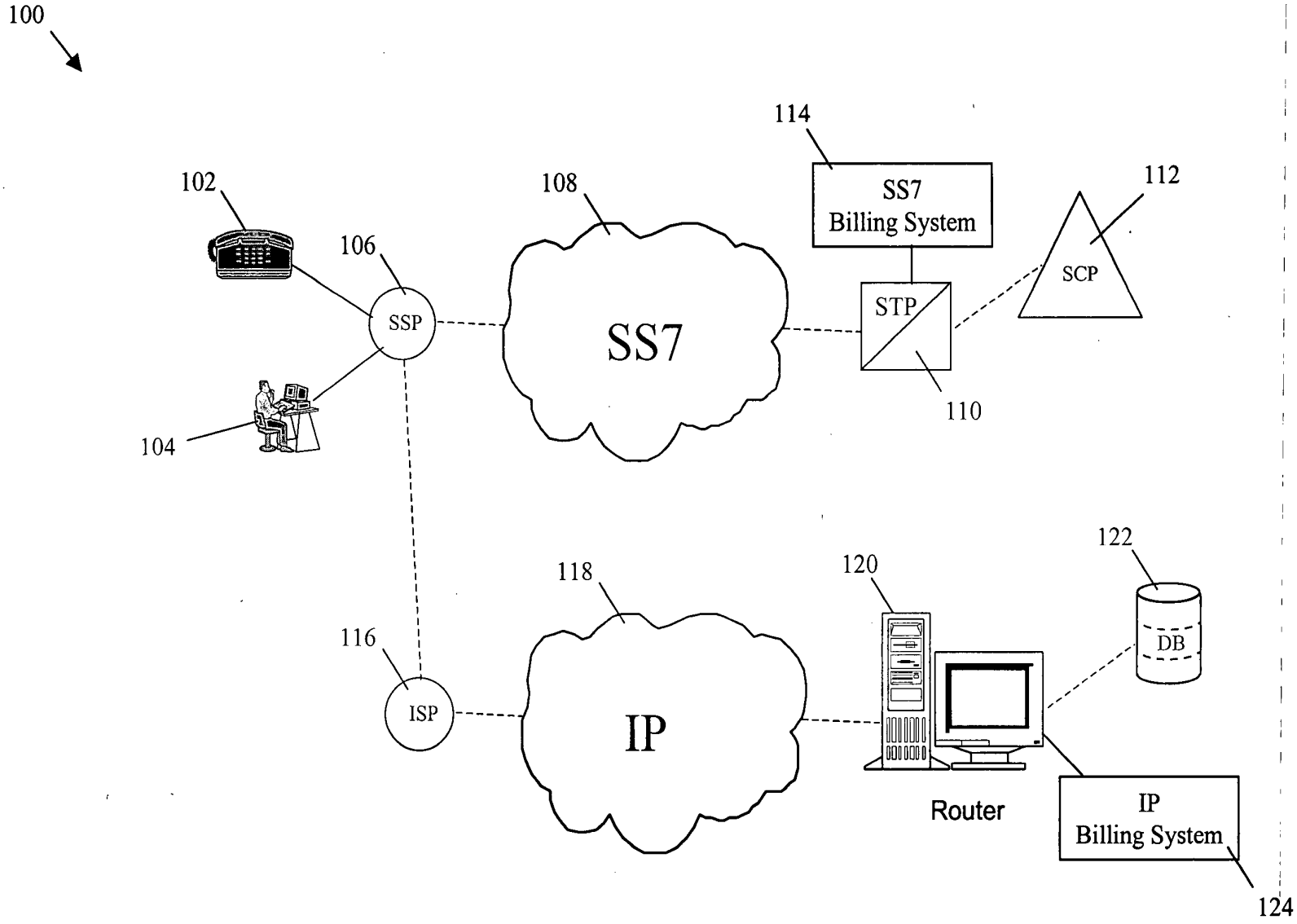
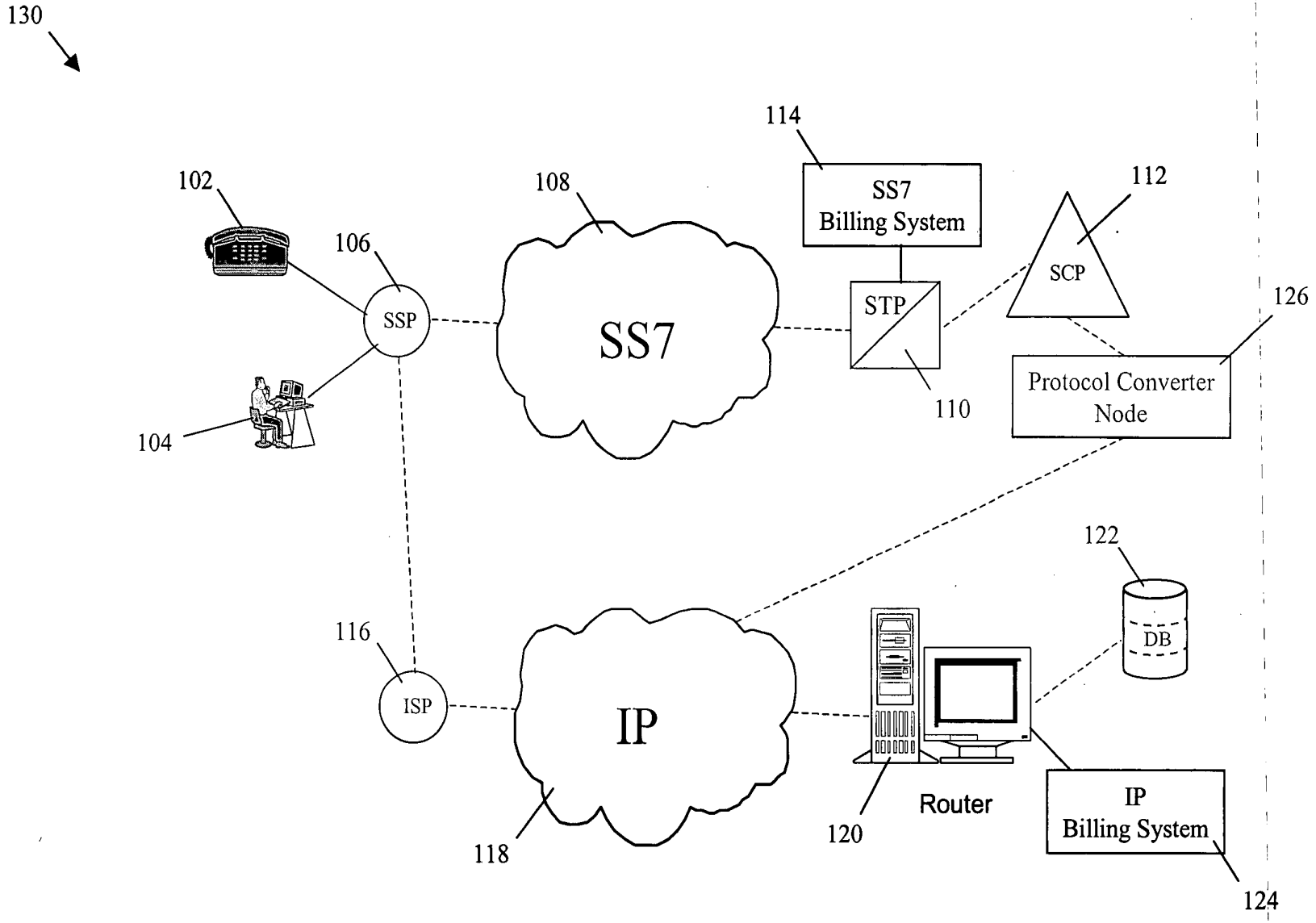
09720 2098960



PRIOR ART

Figure 1

09820 2098960



PRIOR ART

Figure 2

0097/0 2098960

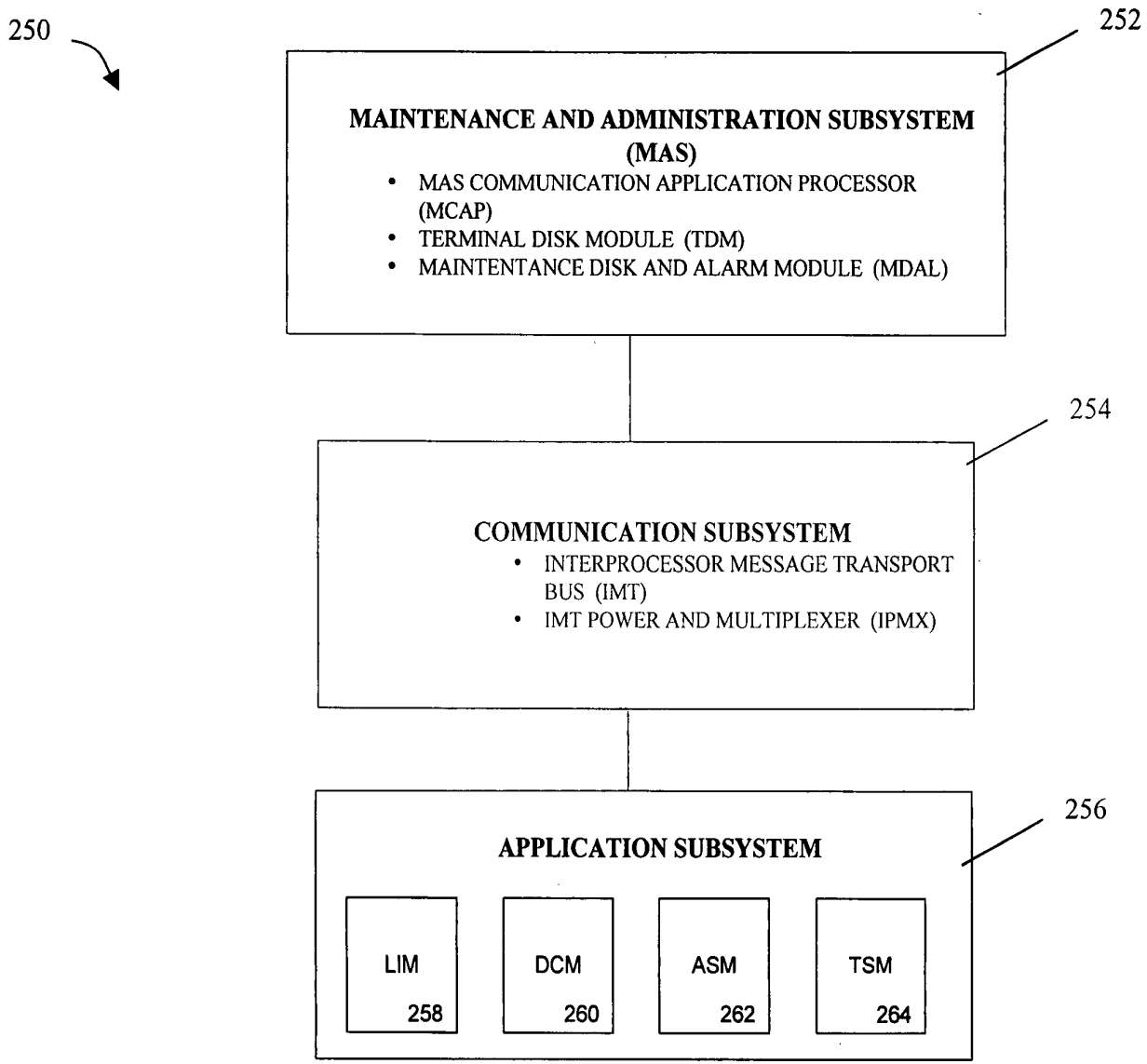


Figure 3

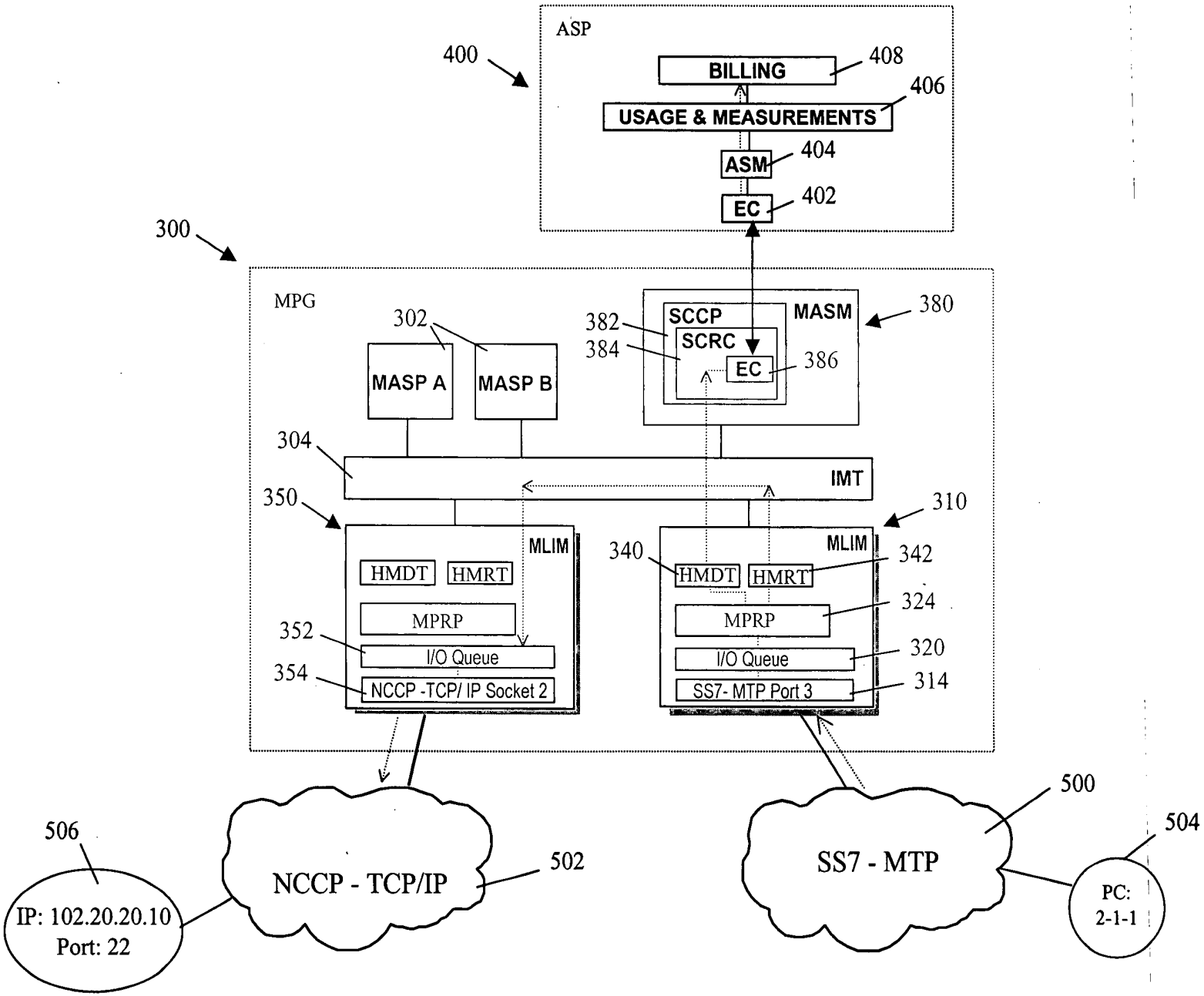

ASP
400
BILLING
408
406
USAGE & MEASUREMENTS
404
ASM
402
EC
300
MPG
302
MASP A
MASP B
382
384
SCCP
SCRC
EC
386
MASM
380
304
IMT
350
310
MLIM
HMDT
HMRT
MPRP
352
I/O Queue
354
NCCP -TCP/ IP Socket 2
340
342
324
320
SS7- MTP Port 3
314
500
504
506
NCCP - TCP/IP
502
SS7 - MTP
IP: 102.20.20.10
Port: 22
PC:
2-1-1

Figure 4

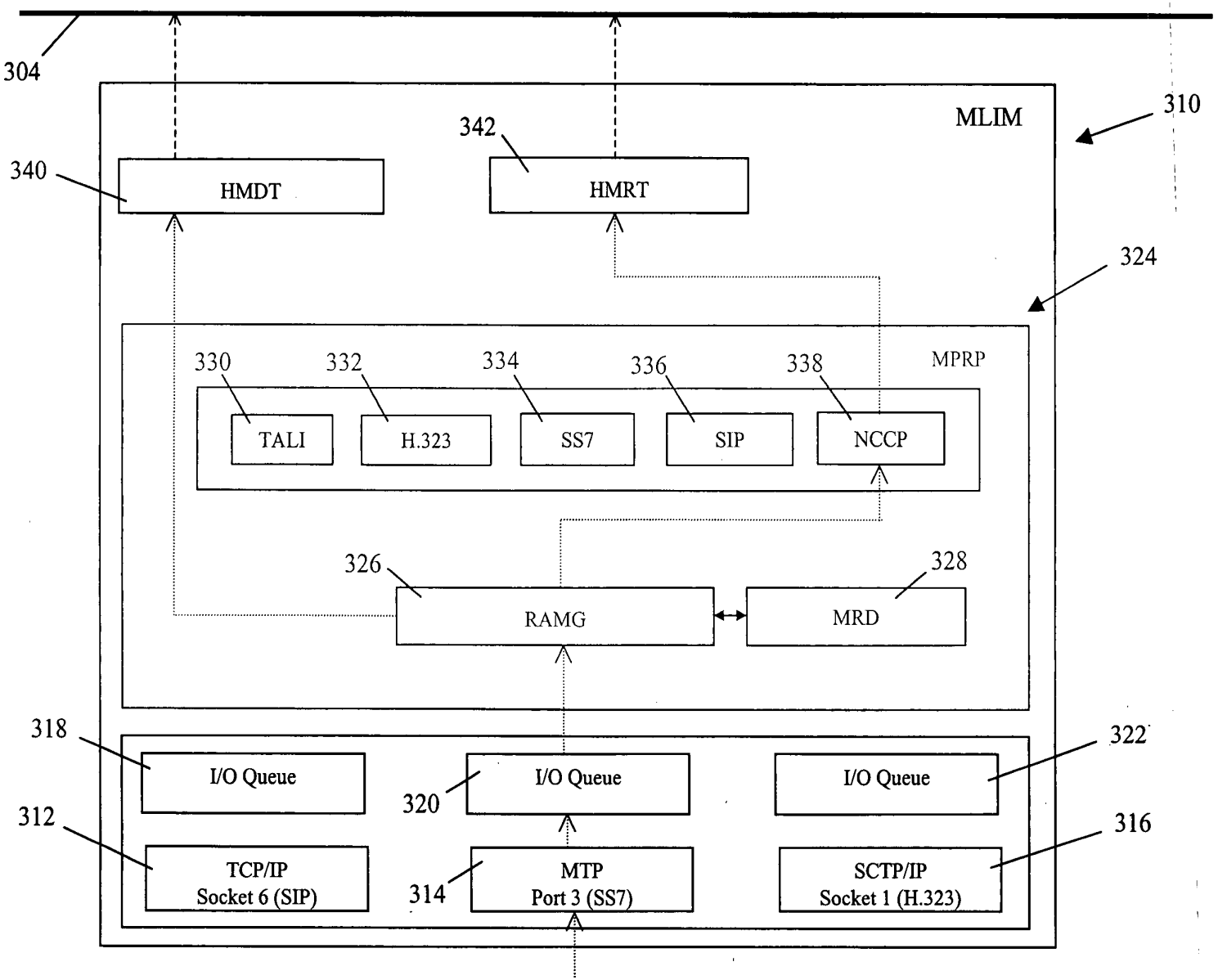

304
MLIM
310
342
340
HMDT
HMRT
324
330
332
334
336
338
MPRP
TALI
H.323
SS7
SIP
NCCP
326
328
RAMG
MRD
318
322
I/O Queue
I/O Queue
I/O Queue
320
312
316
TCP/IP
Socket 6 (SIP)
314
MTP
Port 3 (SS7)
SCTP/IP
Socket 1 (H.323)

Figure 5

MRD DATABASE								
SS7 Keys			DATA FIELDS					
Key 1		Key 2						
DPC	SSN	CdPA	Signaling Protocol	PC/ IP Add.	SSN/ Port	Acct.	Outbound MLIM	Outbound Socket/Port
2-1-1	50	*	SS7	2-1-1	50	No	2201	5
1-1-1	*	*	NCCP	102.20.20.10	22	Yes	2201	1
*	*	9194605555	SIP	102.20.20.12	20	Yes	2201	2
2-1-1	78	*	NCCP	104.20.10.10	30	No	2102	8
2-1-2	*	*	H.323	uswest.cnam1	*	Yes	4101	1
3-1-1	*	*	SS7	103.23.23.10	45	Yes	3306	6

600

Figure 6a

602

MRD DATABASE								
IP Keys			DATA FIELDS					
Key 3		Key 4						
Host	Port	CdPA	Signaling Protocol	PC/ IP Add.	SSN/ Port	Acct.	Outbound MLIM	Outbound Socket/Port
101.10.10.25	23	*	SS7	2-1-1	50	No	4201	12
101.10.10.35	34	*	SS7	2-1-1	50	No	4101	3
*	*	jsmith@aol.com	SS7	2-1-1	20	Yes	4301	16
102.20.20.10	25	*	SIP	101.50.50.10	45	Yes	4101	6
102.20.20.10	23	*	H.323	102.20.20.10	23	Yes	3108	15
103.30.30.10	24	*	NCCP	103.30.30.10	24	No	3402	13
		Retailer.com	SIP	104.40.50.10	34	Yes	3301	18

Figure 6b

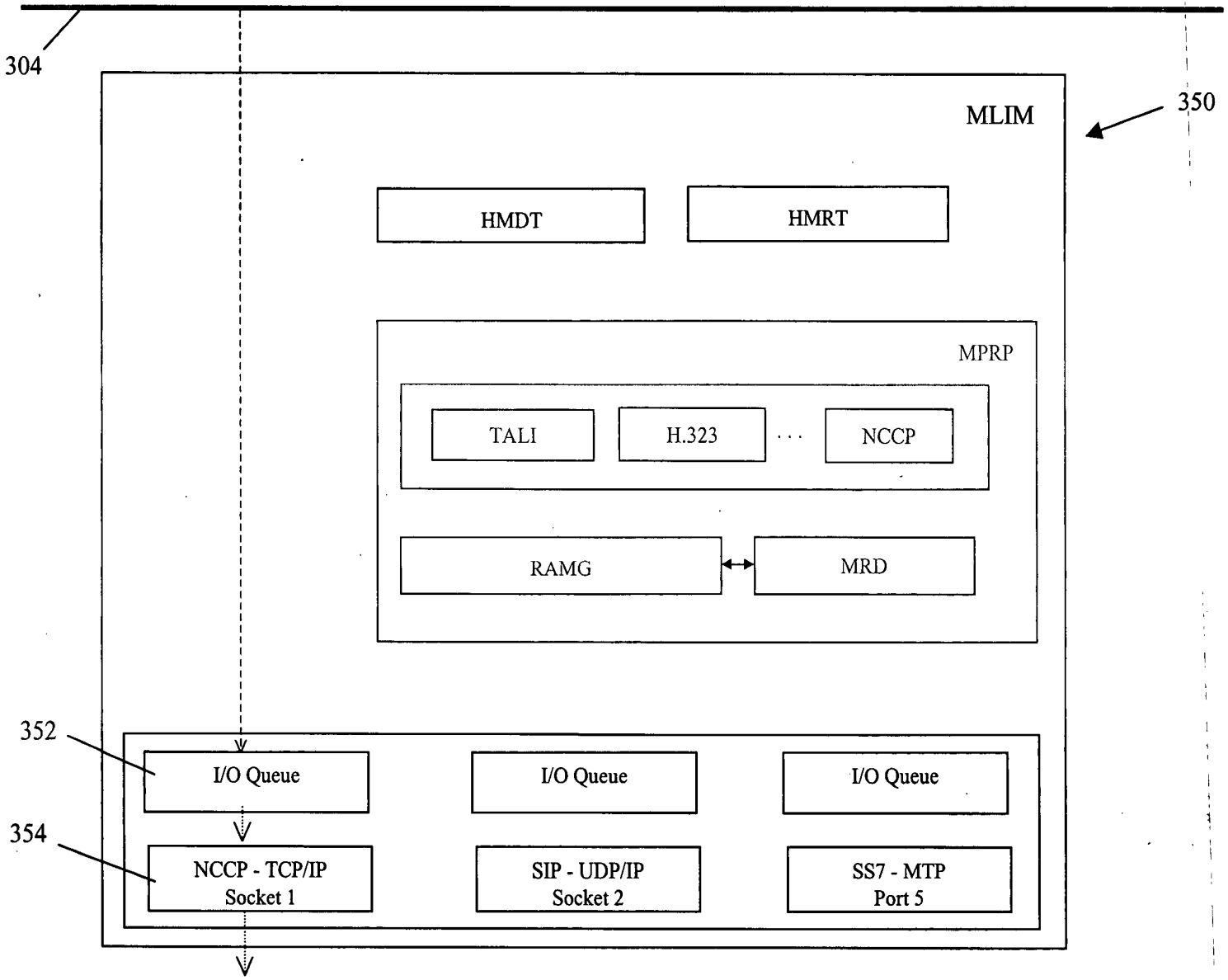

304
MLIM
350
HMDT
HMRT
MPRP
TALI
H.323
NCCP
RAMG
MRD
352
I/O Queue
I/O Queue
I/O Queue
354
NCCP - TCP/IP
Socket 1
SIP - UDP/IP
Socket 2
SS7 - MTP
Port 5

Figure 7

09820 "20981960

410

USAGE & MEASUREMENTS DATABASE							
Keys		DATA FIELDS					
Call ID	Time	Service Provider	Service Recipient	Service Type	CdPA	Originating PC/IP Add.	SSN/Port
1025	23:12.23	12	34	01	jsmith@aol.com	2-1-1	50
1534	23:34.01	23	13	01	9194605500	102.20.20.10	23
1632	23:36.59	12	15	03	Retailer.com	103.30.30.10	24

Figure 8